

ATTACHMENT J3

Fort Sam Houston Water Distribution System

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J3 Fort Sam Houston Water Distribution System

J3.1 Fort Sam Houston Overview

Fort Sam Houston consists of three major areas: Fort Sam Houston Main Cantonment, Camp Bullis, and the Canyon Lake Recreation Area (CLRA). Fort Sam Houston and its sub-installations, Camp Bullis and CLRA occupy approximately 31,000 acres in south-central Texas, in Bexar and Comal counties. Fort Sam Houston (approximately 3,150 acres) is located within the city limits of San Antonio, in Bexar County, Texas, 2.5 miles northeast of downtown San Antonio. Camp Bullis (approximately 28,000 acres) is located approximately 18 miles northwest of Fort Sam Houston, on a site about 10 miles long (north to south) and 4 miles wide, in Bexar County. The CLRA (110 acres) is an outdoor recreation area located in rural Comal County, 48 miles northeast of Fort Sam Houston, within Jacob's Creek Park in the Canyon Lake Reserve.

Fort Sam Houston is unique among Army posts. It is a major, active military installation which plays a vital role in the defense of the United States and it contains some of the oldest structures on any of the Army's installations dating back almost a century and a half. The Post first occupied rented land in 1845 and grew into a major garrison by the late 1800s. Since then, it has developed into a large modern military installation. Its mission began to shift toward a medical emphasis after World War II as a result of the presence of Brooke General Hospital and relocations of other medical missions to Fort Sam Houston. Much of the Fort Sam Houston surrounding area is established, with only minor growth likely to occur in the future. The City's John James Park and the Fort Sam Houston National Cemetery (owned and administered by the U.S. Veterans Administration) are contiguous with the Fort Sam Houston property on the northeast end of the post.

The area surrounding Camp Bullis was primarily rural until the mid-1900s. Since then the area has become increasingly urbanized through residential development and expansion. Camp Bullis is surrounded by a combination of rural agricultural land, scattered houses, and new residential development (primarily on the west and east sides). Approximately 17,000 acres were originally purchased for Camp Bullis (known until 1917 as Leon Springs Military Reservation) in 1906 to provide adequate space for field training and weapons ranges to support units at Fort Sam Houston. During World War II, the role of Camp Bullis as a major processing and training center for U.S. troops expanded. As the role of Fort Sam Houston has shifted toward medical training, Camp Bullis has provided the larger area required for field training of troops going into combat.

The CLRA is in a rural setting, comprised mostly of private land, interspersed with small public parks. Its recreational facilities include a marina, campgrounds, recreational vehicle sites, and basic vacation units for military personnel. The U.S. Army Corps of Engineers (USACE) owns and manages the reserve, Canyon Lake reservoir, and the shoreline areas

primarily for flood control purposes. Fort Sam Houston is responsible for maintaining its own facilities and complying with any state (or federal) regulations governing water quality or hazardous substances.

The Fort Sam Houston primary and secondary missions are to provide medical training to Army personnel and to maintain, operate, and support Brooke Army Medical Center (BAMC). In addition, Fort Sam Houston commands, operates, and administers the use of the resources of Fort Sam Houston, Camp Bullis, and the CLRA for the accomplishment of all assigned missions and provides support to assigned, attached, and tenant units. Camp Bullis' primary and secondary missions are to provide field training and firing ranges, respectively.

Fort Sam Houston is currently evaluating privatization of military family housing units. All of these units are located on the Main post, Camp Bullis and CLRA do not have housing units being considered. Fort Sam Houston has approximately 960 military family housing units. Housing privation is expected to occur prior to contract award.

The population of Fort Sam Houston in 2003 was 24,044 military and civilian personnel, excluding dependents. The major tenants associated with Fort Sam Houston include:

- U.S. Army Medical Department Center and School (AMEDD C&S).
- Brooke Army Medical Center (BAMC)
- HQ MEDCOM
- HQ Fifth U.S. Army
- HQ U.S. Army 5th Recruiting Brigade
- HQ U.S. Army South
- IMA Southwest Region Office

The Fort Sam Houston Independent School District operates an elementary and junior/senior high school for military dependents.

J3.2 Water Distribution System Description

J3.2.1 Water Distribution System Fixed Equipment Inventory

The Fort Sam Houston potable water distribution system consists of the network and all associated appurtenances physically connected to the system as defined by the points of demarcation beginning at the production of well water and ending at each end use facility. The system may include, but is not limited to wells, well pumps, pipelines, valves, fire hydrants, storage facilities, pumps, and meters. The actual inventory of items sold will be conveyed to the Contractor using the Bill of Sale shown in Attachment JXX [DESC to update] to the RFP at the time the system is transferred.

The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The description and inventory were developed based on best available data.

The Offeror shall base its proposal on site inspections, information in the technical library, and other pertinent information, as well as the following description and inventory. If after award the Offeror identifies additional inventory not listed in section J3.2.1.3, the Offeror may submit to the Contracting Officer a request for an equitable adjustment. If the Offeror determines that the inventory listed in section J3.2.1.3 is overstated, the Offeror shall report the extent of the overstatement to the Contracting Officer, who will determine an equitable adjustment.

J3.2.1.1 System Description

The Fort Sam Houston water distribution system is physically separated into three distribution systems. One system serves Fort Sam Houston Cantonment Area, the second serves Camp Bullis, and the third serves Canyon Lake Recreation Area (CLRA).

The potable water distribution system at Fort Sam Houston, Camp Bullis, and CLRA supplies water for residential, commercial, industrial, and fire fighting purposes. The independent systems serve approximately 1,280; 280; and 40 facilities respectively.

Specifically excluded from the water distribution system privatization are:

- Non-potable systems (Re-use water system).
- Water Rights.
- Service laterals in the National Cemetery.
- Service laterals from the Point of Demarcation to the Military Family Housing Units.
- Service laterals at CLRA.
- Deluge tanks and pump stations associated with fire protection systems.
- Booster pumps for individual buildings (2841, 592, 1002, 2791, 2792).
- Irrigation systems.
- Backflow preventers on dedicated fire service lines and irrigation systems.
- Abandoned lines.
- Swimming pools.
- Air Force controlled area at Camp Bullis.
- Pipelines owned by entities other than Fort Sam Houston (ex. San Antonio Water System).
- Well No. J-17 and associated Building 1560 (Edwards Aquifer Monitoring well that is not connected to the system).

J3.2.1.1.1 Fort Sam Houston

Fort Sam Houston produces 100 percent of the potable water consumed on Post through 5 water wells in two locations. Wells #1, #2, and #7 are associated with Building 2194

(southwest side of post). Well # 7 has a direct drive diesel engine, as an emergency power source, attached to the pump. Wells #5 and #6 are located within Building 3186 (northeast side of post) and adjacent to the treatment plant at Building 3190. The emergency generator located at Building 3190 supplies emergency power to operate well #5 or #6. Current operation uses wells #5, #6, and #7 as back up wells. The well water at both locations is treated with fluoride and chlorine gas. Although the Post is not currently treating the water with sodium hexametaphosphate, the associated equipment (metering pumps and storage tanks) are part of the treatment plant. After treatment the water is stored in two, one-million gallon elevated storage tanks (tank 1565 and tank 2600). The water is distributed to the end users through the gravity distribution system. Well water is pumped directly to the tanks by the well pumps. The water distribution system is manually operated. Water tanks are gauged periodically each shift and pump rates adjusted as necessary, 24 hours per day, 7 days per week.

Fort Sam Houston's water distribution system consists of two elevated water storage tanks, distribution mains, valves, valve boxes, service lines, fire hydrants, and meters. Construction of the water distribution system infrastructure began in the early 1940s and continues today as the installation missions change and new facilities are constructed. The elevated steel water tanks are protected by impressed current cathodic protection systems and portions of the underground metallic pipe, fittings, and valves were installed with sacrificial anode cathodic protection.

Fort Sam Houston has connected to the City of San Antonio re-use water system for irrigation uses and cooling water for facility HVAC systems at several locations on Post. The Fort Sam Houston re-use distribution system is not included in the system being privatized. Re-use distribution mains exist in areas where there are potable water mains and applicable codes must be followed for the installation and maintenance of potable water system piping in areas where the lines are in close proximity to re-use water piping.

The distribution system on Fort Sam Houston is primarily C900 PVC pipe between 4 and 16-inches in diameter. Since 1990 approximately 90 percent of the distribution mains and laterals have been replaced. Most of, but not all of the new PVC pipe was installed with marking tape. Older distribution mains are cast iron and asbestos-cement pipe. The asbestos-cement pipe was installed without marking tape. Laterals are primarily copper pipe $\frac{3}{4}$ and 1-inch in diameter. Older laterals are cast iron and galvanized piping. Distribution mains are typically buried 4-8 feet below grade with the average about 5 feet. Approximately 8 percent is beneath paved surfaces. The prevailing subsurface at Fort Sam Houston is dry sandy clay.

Building 2194 and all ancillary facilities within the fence surrounding Building 2194 will be included with the system being privatized. The land these facilities are located on will not be included. The Contractor will be permitted to use these facilities to support operation and maintenance of the system. The Government, at its discretion, may allow the Contractor to construct additional support facilities on the installation IAW with established facility siting procedures. The Contractor shall also own the facilities within the fenced area at the two elevated storage tanks and Buildings 3186 and 3190. The Contractor shall also maintain the fence and grounds within fenced areas IAW Fort Sam Houston's grounds maintenance regulations.

J3.2.1.1.2 Camp Bullis

Camp Bullis produces 100 percent of the potable water consumed through three water wells in two primary locations. The distribution system of Camp Bullis is normally operated as two separate independent systems. Wells #3 (Bldg. 6210) and #15 are associated with the majority of the distribution system on Camp Bullis. The Deployable Medical Systems Equipment Training (DMSET) area has its own well and the balance of the distribution system. The DMSET well, tank and distribution network was constructed in 1995. Although the systems normally operate isolated and independent of one another, the systems have an interconnection point. Wells #3 and # 15 each have a 75 kW emergency generator. The DMSET well has an 80 kW emergency generator.

The well water at both locations is treated with chlorine, at two locations within the primary distribution system, and one location within the DMSET distribution system. After treatment the water from wells #3 and # 15 is stored in a 250,000 gallon elevated storage tank (tank 6213). The booster pump at Tank 6213 is used to fill the tank. The 200,000 gallon DMSET elevated storage tank is filled from the DMSET well.

Currently, the water distribution system is manually operated. Water tanks are gauged periodically each shift and pump rates adjusted as necessary, 24 hours per day, 7 days per week. Wells #3 and #15 are operated on an alternating schedule of one week on and off the next. An altitude valve on the DMSET tank has been used to control the pumps in the DMSET well. The control system currently needs repairs and is not operating.

Camp Bullis distribution system consists of two elevated steel tanks, distribution mains, valves, valve boxes, service lines, fire hydrants, and meters. Construction of the water distribution system infrastructure began in the early 1940s and continues today as the installation missions change and new facilities are constructed. The elevated steel water tanks are protected by impressed current cathodic protection systems. Since 1990, approximately 50 percent of the mains have been replaced with C900 pipe. Most of, but not all of the new PVC pipe was installed with marking tape. Older portions of the mains are ductile iron, cast iron, and asbestos-cement. The asbestos-cement pipe was installed without marking tape. Laterals consist of PVC, cast iron, galvanized, and copper pipe. The average burial depth on Camp Bullis is 4-6 feet below ground with approximately 8 percent beneath paved surfaces. The prevailing subsurface at Camp Bullis is rock.

The facilities within the fence surrounding the wells, treatment facilities, and elevated tanks will be included with the system being privatized. The land these facilities are located on will not be included. These facilities do not include office space, shop areas, or lay down areas. The Government, at its discretion, may allow the Contractor to construct additional support facilities on the installation IAW with established facility siting procedures. The Contractor shall also maintain the fence and grounds within fenced areas IAW Fort Sam Houston's grounds maintenance regulations.

J3.2.1.1.3 CLRA

CLRA produces 100 percent of the potable water consumed at the recreation area from a single well constructed in 2002. The water from this well is treated for iron removal through two green-sand filters. Potassium permanganate is fed in conjunction with the operation of the green-sand filters. The well water is then treated with chlorine and stored in a 20,000-gallon ground storage tank. The water is pressurized through a booster pump station used in conjunction with a 1,800-gallon pressure tank before being distributed to the end users.

The Canyon Lake Recreation Area (CLRA) system consists of one water well installed in 2002 and a treatment plant with a green sand filter, pressure tank, and chlorine injection. The distribution system has two 2-inch galvanized lines from the pressure tank to a 6-inch asbestos-cement looped main with 6 isolation valves and fire hydrants. The asbestos-cement pipe was installed without marking tape. The main line is buried approximately 4-5 feet below grade with 50 percent beneath paved surfaces. The prevailing subsurface CLRA is rock.

The facilities within the fence surrounding the wells, treatment facilities, and storage tank will be included with the system being privatized. The land these facilities are located on will not be included. These facilities do not include office space, shop areas, or lay down areas. The Government, at its discretion, may allow the Contractor to construct additional support facilities on the installation IAW with established facility siting procedures. The Contractor shall also maintain the fence and grounds within fenced areas IAW Fort Sam Houston's grounds maintenance regulations.

J3.2.1.2 Points of Demarcation

The Fort Sam Houston potable water distribution system being studied consists of all components from the wells to the point where water is supplied to end-users. The beginning point of demarcation is the well casing. The contractor shall own the casing and all appurtenances associated with the wells. The point of demarcation for each end user is defined as the point or component on the distribution system where ownership changes from the utility owner to the building owner. In most cases the point of demarcation is the first upstream component (i.e., meter, valve, regulator, etc.) of the system located outside of the facility footprint. However, in situations where the facility water meter is located within the facility, the point of demarcation will be inside the facility and the Contractor will be required to coordinate his work with the facility.

Table 1 identifies the type of service and general location of the point of demarcation with respect to each building served by the distribution system.

TABLE 1

Water Distribution System Points of Demarcation
Water Distribution System, Fort Sam Houston, Texas

Point of Demarcation	Applicable Scenario	Sketch
Fort Sam Houston		
Point of demarcation is the downstream side of the water meter or valve (closest apparatus to the exterior of the structure)	Non-residential service. Water meter or valve is located on the service line entering the structure within 25 feet of the exterior of the structure.	
Point where the service line enters the structure. <i>Note: Service valve may be installed within 25 feet of the structure at any time. Downstream side of the service valve will become the point of demarcation.</i>	Non-residential service. No water meter, backflow prevention device, or valve exists on the service line entering the structure within 25 feet of the exterior of the structure.	
Point of demarcation is the downstream side of the Water Meter.	Non-residential service. Water meter is located on the service line entering the structure within the structure.	
Point of demarcation is the upstream side of the PIV valve.	Non-residential service. Fire suppression system on dedicated feed from water main.	

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the upstream side of the PIV valve.	Non-residential service. Fire suppression system on the same feed as domestic service from water main and service line has PIV valve.	<p>The sketch shows a structure with a dashed line representing the fire suppression supply. A solid line represents the domestic service line. A PIV valve is located on the service line, and the point of demarcation is at the upstream side of this valve.</p>
Point of demarcation is where the service enters the building. <i>Note: Service valve may be installed within 25 feet of the structure at any time. Service valve will become the point of demarcation.</i>	Non-residential service. Fire suppression system on the same feed as domestic service from water main and service line does not have PIV valve or service valve within 25 feet of structure.	<p>The sketch shows a structure with a dashed line representing the fire suppression supply. A solid line represents the domestic service line. The point of demarcation is at the service valve, which is located within 25 feet of the structure.</p>
Point of demarcation is where the service enters the building. <i>Note: Service valve may be installed within 25 feet of the structure at any time. Service valve will become the point of demarcation.</i>	Public schools located on Post.	<p>The sketch shows a structure with a service line entering the building. The point of demarcation is at the service valve, which is located within 25 feet of the structure.</p>
Point of demarcation is the upstream side of the backflow prevention device or service valve.	Irrigation system fed directly from distribution system or backflow prevention device exists downstream of the water meter on the service line entering the structure.	<p>The sketch shows an irrigation system connected to a distribution pipe. A backflow device or service valve is located on the service line, and the point of demarcation is at the upstream side of this device.</p>
Point of demarcation is the downstream side of the water meter.	Residential service. Water meter is located on the service line entering the structure.	<p>The sketch shows a structure with a water meter located on the service line entering the structure. The point of demarcation is at the downstream side of the water meter.</p>

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the downstream side of the shutoff valve.	Residential service, Valve located within five feet of the curb and No Water meter is located on the service line entering the structure.	<p>Distribution Pipe</p> <p>Service Line</p> <p>Structure</p> <p>Point of Demarcation</p> <p>Distribution Pipe</p>
Point of demarcation is the downstream side of the tee where the service connects to the main.	Residential service, No Water meter and no valve within five feet of the curb.	<p>Distribution Pipe</p> <p>Service Line</p> <p>Structure</p> <p>Point of Demarcation</p> <p>Distribution Pipe</p>
Camp Bullis		
Point of demarcation is where the service line enters the structure. <i>Note: Service valve may be installed within 25 feet of the structure at any time.</i> <i>Downstream side of the service valve will become the point of demarcation.</i>	Residential and Non-residential service.	<p>Distribution Pipe</p> <p>Service Line</p> <p>Structure</p> <p>Point of Demarcation</p> <p>Distribution Pipe</p>
Point of demarcation is where the main line enters the fenced area.	Fenced Air Force Compound.	None
Canyon Lake Recreational Area (CLRA)		
Point of demarcation is the downstream side of the tee where the service connects to the main.	Residential and non-residential service.	<p>Distribution Pipe</p> <p>Service Line</p> <p>Structure</p> <p>Point of Demarcation</p> <p>Distribution Pipe</p>

J3.2.1.3 Condition Assessment

The potable water condition is presented below for each of the three systems at Fort Sam Houston, Camp Bullis, and CLRA.

J3.2.1.3.1 Fort Sam Houston

Fort Sam Houston has replaced 90 percent of the water distribution system since 1990. New mains are C900 and laterals are copper. The new portions of the system are in good condition. Several components in the Fort Sam Houston water distribution piping have either exceeded or are approaching the end of their useful lives and are in poor condition. These include:

- Cast iron, ductile iron, galvanized, and asbestos-cement pipe installed in the 1940s and 1950s.
- Hydrants and valves installed in the 1940s, 1950s, and 1960s.

The water storage tanks at Fort Sam Houston have significant life remaining. A video camera survey conducted in 2003 found a few anodes that were disconnected but otherwise the tanks were in generally good condition. Repairs to Bldg. 6895 were completed in 2002. It has been reported that Tank 1565 has lead paint on the exterior.

The impressed current cathodic protection systems installed at the steel water storage tanks are generally in good condition. Monthly readings of the rectifiers were taken through February 2003. At that time, the readings were stopped due to staffing limitations. The extent to which buried metallic water distribution piping is protected by sacrificial anodes and the condition of the anodes is unknown.

A SCADA system was installed in the 1980's to monitor the elevation in the tanks and control the well pumps on and off. Parts for the system are no longer operational and the system has been abandoned. All well pump on/off is done manually based on periodic tank gauging.

J3.2.1.3.2 Camp Bullis

At Camp Bullis, approximately 50 percent of the water distribution system has been replaced since 1990. New mains are C900 and laterals are copper. The new portions of the system are in good condition. The older portions of the water distribution piping have either exceeded or are approaching the end of their useful lives and are in poor condition. These include:

- Cast iron, ductile iron, galvanized, and asbestos-cement pipe installed in the 1940s and 1950s.
- Hydrants and valves installed in the 1940s, 1950s, and 1960s.

The altitude valve and corresponding pump on/off controls on the DMSET well are not operating. The tank is filled based on manual tank gauging, which is done periodically throughout the day.

The chlorination system for Well #3 is located adjacent to the elevated storage tank. The chlorination system for Well #15 is located near the well. Currently the water main valves need to be manually set and the chlorination stations manually turned on and off, depending on which pump is in operation. The piping is such that there is a chance Well #3 could supply water that has not been chlorinated or Well #15 supply water that is chlorinated twice if the system is not properly set. In addition, there is only one water meter for both Wells #3 and #15.

J3.2.1.3.3 CLRA

A new well was installed at CLRA in 2002. The green-sand filter treatment facilities and pneumatic tank were installed in 1985-1986. The facilities are in good condition.

Approximately 5 years ago a piece of the galvanized pipe was tested and found to be in good condition. The 6-inch main line and valves are in fair to good condition. Fire hydrants are flushed weekly to maintain water quality and are in good condition.

J3.2.1.4 Inventory

The potable water distribution piping system consists of approximately 76 miles of buried piping ranging in size from 0.75-inch service lines to 16-inch main lines. Other components include wells, pumps, treatment facilities, elevated tanks, fire hydrants, valves, and meters. **Table 2A** provides an inventory listing for the system on Fort Sam Houston. **Tables 2B** and **2C** list the inventory for Camp Bullis and CLRA respectively.

The approximate year of construction for distribution mains were estimated based on maintenance personnel knowledge. The new portions of the systems have been replaced in phases starting in 1990. These replaced portions were assigned an age of 1995 in **Tables 2A, 2B, and 2C**. The older portions were assigned the mid-decade (e.g., components constructed in the 1970s were shown in the inventory as 1975) in which maintenance personnel thought that portion of the system was installed.

When not specifically identified by system drawings, the size and type of system components were estimated, generally based on the size of the piping the component was connected to. Additionally, when the year of construction was not known, it was estimated based on the age of the piping.

TABLE 2A

Fixed Inventory Summary

Water Distribution System, Fort Sam Houston, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Fort Sam Houston Main Post				
Distribution Piping				
PVC, Main	16-in	23741	LF	1990
PVC, Main	12-in	19681	LF	1990
PVC, Main	10-in	8253	LF	1990
PVC, Main	8-in	52961	LF	1990
PVC, Main	6-in	108490	LF	1990
PVC, Service	4-in	14425	LF	1990
PVC, Service	3-in	4075	LF	1990
PVC, Service	2.5-in	295	LF	1990
PVC, Service	2-in	19253	LF	1990

TABLE 2A
Fixed Inventory Summary
Water Distribution System, Fort Sam Houston, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
PVC, Service	1.5-in	4843	LF	1990
PVC, Service	1.25-in	6393	LF	1990
PVC, Service	1-in	3499	LF	1990
PVC, Service	0.75-in	5138	LF	1990
PVC, Miscellaneous, (est. size, qty, & age)	6-in	92130	LF	1990
C.I., Main	16-in	2638	LF	1950
C.I., Main	12-in	2187	LF	1950
C.I., Main	10-in	917	LF	1950
C.I., Main	8-in	5884	LF	1950
C.I., Main	6-in	12054	LF	1950
C.I., Service	4-in	1603	LF	1950
C.I., Service	3-in	453	LF	1950
C.I., Service	2.5-in	33	LF	1950
C.I., Service	2-in	2139	LF	1950
C.I., Service	1.5-in	538	LF	1950
C.I., Service	1.25-in	710	LF	1950
C.I., Service	1-in	389	LF	1950
C.I., Service	0.75-in	571	LF	1950
C.I., Miscellaneous, (est. size, qty, & age)	6-in	10237	LF	1950
Valves				
Valves, gate, main, (est. qty, & age)	16-in	138	EA	1990
Valves, gate, main, (est. qty, & age)	16-in	15	EA	1950
Valves, gate, main, (est. qty, & age)	12-in	114	EA	1990
Valves, gate, main, (est. qty, & age)	12-in	13	EA	1950
Valves, gate, main, (est. qty, & age)	10-in	48	EA	1990
Valves, gate, main, (est. qty, & age)	10-in	5	EA	1950
Valves, gate, main, (est. qty, & age)	8-in	307	EA	1990
Valves, gate, main, (est. qty, & age)	8-in	34	EA	1950

TABLE 2A
Fixed Inventory Summary
Water Distribution System, Fort Sam Houston, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Valves, gate, main, (est. qty, & age)	6-in	628	EA	1990
Valves, gate, main, (est. qty, & age)	6-in	70	EA	1950
Valves, gate, service, (est. qty, & age)	4-in	95	EA	1990
Valves, gate, service, (est. qty, & age)	4-in	10	EA	1950
Valves, gate, service, (est. qty, & age)	3-in	27	EA	1990
Valves, gate, service, (est. qty, & age)	3-in	3	EA	1950
Valves, gate, service, (est. qty, & age)	2.5-in	2	EA	1990
Valves, gate, service, (est. qty, & age)	2-in	126	EA	1990
Valves, gate, service, (est. qty, & age)	2-in	14	EA	1950
Valves, gate, service, (est. qty, & age)	1.5-in	31	EA	1990
Valves, gate, service, (est. qty, & age)	1.5-in	4	EA	1950
Valves, gate, service, (est. qty, & age)	1.25-in	41	EA	1990
Valves, gate, service, (est. qty, & age)	1.25-in	5	EA	1950
Valves, gate, service, (est. qty, & age)	1-in	22	EA	1990
Valves, gate, service, (est. qty, & age)	1-in	3	EA	1950
Valves, gate, service, (est. qty, & age)	0.75-in	33	EA	1990
Valves, gate, service, (est. qty, & age)	0.75-in	4	EA	1950
Valves, gate, service, (est. size, qty, & age)	6-in	602	EA	1990
Valves, gate, service, (est. size, qty, & age)	6-in	67	EA	1950

Water Meters

Water Meters

Water Meter	0.75-in.	98	EA	1984
Water Meter	0.75-in.	215	EA	1997
Water Meter	0.75-in.	161	EA	1994
Water Meter	1.5-in.	15	EA	1999
Water Meter	1.5-in.	25	EA	2001
Water Meter	1.5-in.	123	EA	2003
Water Meter	1.5-in.	1	EA	2004
Water Meter, (est. size, qty, & age)	2-in.	77	EA	1985

TABLE 2A
Fixed Inventory Summary
Water Distribution System, Fort Sam Houston, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Water Meter, (est. size, qty, & age)	2-in.	78	EA	1995
Water Meter, Vault (est. size & age)		793	EA	1990
Fire hydrant, wet barrel	5-in	513	EA	1997
Fire hydrant, wet barrel	5-in	57	EA	1997
Backflow Preventers, (est. size, qty, & age)	3-in.	108	EA	1995
Elevated storage tank - #1565 (steel), ~155 feet	1,000,000 gal.	1	EA	1971
Valve Vault, estimated size 8' X 14' X 8' depth	8' X 14' X 8'	1	EA	1971
Valves, gate	12-in	2	EA	1971
Valves, gate	8-in	2	EA	1971
Valve, Check	12-in	1	EA	1971
Valve, Altitude	12-in	1	EA	1971
Fence, 6' chain link, estimated length	6 feet tall	328	LF	1971
Anodes, est. qty		24	EA	1971
Impressed current cathodic protection systems		1	EA	1971
Elevated storage tank - #2600 (steel), ~155 feet	1,000,000 gal.	1	EA	1941
Valve Vault, estimated size 8' X 12' X 8' depth	8' X 12' X 8'	1	EA	1941
Valves, gate	12-in	2	EA	1941
Valves, gate	8-in	2	EA	1941
Valve, Check	12-in	1	EA	1941
Fence, 6' chain link	6 feet tall	328	LF	1941
Anodes, est. qty		24	EA	1941
Impressed current cathodic protection systems		1	EA	1941
Water Treatment Plant #1 (Bldg 2194 & Wells #1, #2, and #7)				
Building 2194, brick	6,115 sf	6,115	SF	1911
Fluoride Tank (poly tank with secondary containment)	1,000 gal.	1	EA	1990

TABLE 2A
Fixed Inventory Summary
Water Distribution System, Fort Sam Houston, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Phosphate Tank (poly tank)	1,000 gal.	1	EA	1990
Chemical Feed pumps	24 gpd	2	EA	2000
Chlorine Gas Injection		1	EA	1990
Chlorine detection system with alarm		1	EA	1990
Chlorine dilution pump (multi stage centrifugal)	5 HP	1	EA	1990
Process controls		3	EA	1990
Insertion Flowmeter		1	EA	1990
Water Well - #1 (within Bldg. 2194)				
Casing, steel	12-in	670	LF	1956
Pump, vertical turbine, 1,200 gpm	150 HP	1	EA	1956
Water Well - #2 (within Bldg. 2194)				
Casing, steel	12-inch	669	LF	1956
Pump, vertical turbine, 1,050 gpm	100 HP	1	EA	1956
Water Well- #7 (adjacent to Bldg. 2190)				
Casing, steel	20-inch	734	LF	1956
Pump, vertical turbine, 2,500 gpm	250 HP	1	EA	1956
Emergency Direct Drive Diesel Engine		1	EA	1956
Fuel Storage Tank	500 gal.	1	EA	1956
Building 2190, concrete block	347 sf	347	SF	1956
Water Treatment Plant #2 (Bldg. 3190, 3194, 3186)				
Building 3190	640 sf	640	SF	1952
Building 3194	140 sf	140	SF	1996
Building 3186	3,116 sf	3,116	SF	1941
Fluoride Tank (poly tank with secondary containment)	850 gal.	1	EA	1990
Phosphate Tank (poly tank)	850 gal.	1	EA	1990
Chemical Feed pumps	24 gpd	2	EA	2000

TABLE 2A
Fixed Inventory Summary
Water Distribution System, Fort Sam Houston, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Chlorine Gas Injection		1	EA	1990
Chlorine detection system with alarm		1	EA	1990
Chlorine dilution pump (multi stage centrifugal)	5 HP	1	EA	1990
Process controls		3	EA	1990
Insertion Flowmeter		1	EA	1990
Fence, 6' chain Link (Bldg. 3190 and 3194)		400	LF	1952
Fence, 6' chain Link (Bldg. 3186)		100	LF	1941
350 kW Detroit Diesel Emergency Generator w/ self contained fuel tank	350 kW	1	EA	1996
Water Well - #5 (within Bldg. 3186)				1941
Casing, steel	16-in	140	LF	1990
Pump, vertical submersible, 2,500 gpm	250 HP	1	EA	1990
Water Well - #6 (within Bldg. 3186)				1941
Casing, steel	16-in	150	LF	1990
Pump, vertical turbine, 2,500 gpm	250 HP	1	EA	1990

Notes:

C.I. = Cast Iron
dia. = diameter
EA = Each
Est = estimated
Ft = feet
Gal. = gallons
Gpm = gallons per minute
Gpd = gallons per day
Hp = horsepower
In = inches
KW = kilo Watt
LF = Linear Feet
PVC = Polyvinyl Chloride
qty. = quantity
sf = square feet

Note: Water distribution lines were estimated to be 90% PVC and 10% C.I.

TABLE 2B
Fixed Inventory Summary
Water Distribution System, Camp Bullis, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Camp Bullis				
Distribution Piping				
PVC, Main, (est. qty, age)	14-in	225	LF	1990
PVC, Main, (est. qty, age)	12-in	3060	LF	1990
PVC, Main, (est. qty, age)	10-in	90	LF	1990
PVC, Main, (est. qty, age)	8-in	1665	LF	1990
PVC, Main, (est. qty, age)	6-in	15458	LF	1990
PVC, Service, (est. qty, age)	4-in	11003	LF	1990
PVC, Service, (est. qty, age)	3-in	968	LF	1990
PVC, Service, (est. qty, age)	2-in	8843	LF	1990
PVC, main (DMSET)	6 in	1500	LF	1995
G.I., Main, (est. qty, age)	14-in	25	LF	1950
G.I., Main, (est. qty, age)	12-in	340	LF	1950
G.I., Main, (est. qty, age)	10-in	10	LF	1950
G.I., Main, (est. qty, age)	8-in	185	LF	1950
G.I., Main, (est. qty, age)	6-in	1718	LF	1950
G.I., Main, (est. qty, age)	4-in	1223	LF	1950
G.I., Main, (est. qty, age)	3-in	108	LF	1950
G.I., Main, (est. qty, age)	2-in	983	LF	1950
Distribution Valves				
Valves, main, (est. size, qty, age)	14-in	2	EA	1990
Valves, main, (est. size, qty, age)	12-in	5	EA	1990
Valves, main, (est. size, qty, age)	12-in	1	EA	1950
Valves, main, (est. size, qty, age)	10-in	2	EA	1990
Valves, main, (est. size, qty, age)	8-in	3	EA	1990

TABLE 2B
Fixed Inventory Summary
Water Distribution System, Camp Bullis, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Valves, main, (est. size, qty, age)	6-in	26	EA	1990
Valves, main, (est. size, qty, age)	6-in	3	EA	1950
Valves, main, (est. size, qty, age)	4-in	19	EA	1990
Valves, main, (est. size, qty, age)	4-in	2	EA	1950
Valves, main, (est. size, qty, age)	3-in	2	EA	1990
Valves, main, (est. size, qty, age)	2-in	15	EA	1990
Valves, main, (est. size, qty, age)	2-in	2	EA	1950
Fire hydrant, (est. qty, age)		11	EA	1990
Fire hydrant, (est. qty, age)		1	EA	1950
Backflow Preventers, (est. size, qty, age)	3-in	78	EA	1990
Water Well - #3 (Bldg. 6210)				
Casing, steel	8-inch	320	LF	1930
Pump, vertical submersible, 300 gpm, multi stage turbine	30 HP	1	EA	1930
75 kW Diesel Generator (est. age)	75 kW	1	EA	1990
Building 6210, wood	110 sf	110	SF	1930
Water Well - #15 (Bldg. 6219)				
Casing, steel	8-inch	170	LF	1998
Pump, submersible, 350 gpm	30 HP	1	EA	1998
75 kW Diesel Generator	75 kW	1	EA	1998
Chlorine Gas Injection		1	EA	1990
Building 6219, steel siding	100 sf	100	SF	1977
Building 6217, steel siding	180 sf	180	SF	2001
Water Well- DMSET (Bldg. 6148)				
Building 6149, concrete block	690 sf	699	SF	1995
Casing, steel	8-inch	160	LF	1995

TABLE 2B
Fixed Inventory Summary
Water Distribution System, Camp Bullis, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Pump, multi-stage turbine, 40 gpm	25 HP	1	EA	1995
Chlorine Gas Injection		1	EA	1995
80 kW Cummins Emergency Generator (size est.)	80 kW	1	EA	1995
Booster Pumps (Well #3)	50 HP	1	EA	1988
Diesel Generator (size est.)	80 kW	1	EA	1998
Elevated storage tank - #6213 (steel with concrete foundation)	250,000 gal.	1	EA	1987
Building 6207, steel siding	160 sf	160	SF	2001
Building 6208, concrete block	240 sf	240	SF	1988
Building 6209, steel siding	180 sf	180	SF	2001
Building 6211, wood	299 sf	299	SF	1941
Chlorine Gas Injection		1	EA	1987
Valve Vault, estimated size 8' X 12' X 8' depth	8' X 12' X 8'	1	EA	1987
Valves, gate	12-in	2	EA	1987
Valves, gate	8-in	2	EA	1987
Valve, Check	12-in	1	EA	1987
Fence, 6' chain link	6 feet tall	328	LF	1987
Anodes, (est. qty)		12	EA	1987
Impressed current cathodic protection systems		1	EA	1987
Elevated storage tank - #DMSET (Bldg. 6145), steel	200,000 gal.	1	EA	1995
Building 6144, steel siding	288 sf	288	SF	1995
Valve Vault, estimated size 8' X 12' X 8' depth	8' X 12' X 8'	1	EA	1995
Valves, gate	12-in	2	EA	1995
Valves, gate	8-in	2	EA	1995
Valve, Check	12-in	1	EA	1995
Fence, 6' chain link	6 feet tall	328	LF	1995
Anodes, est. qty		12	EA	1995
Impressed current cathodic protection systems		1	EA	1995

TABLE 2B

Fixed Inventory Summary

Water Distribution System, Camp Bullis, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
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Notes:

dia. = diameter

EA = Each

est. = estimated

Ft = feet

Gal. = gallons

Gpm = gallons per minute

G.I. = galvanized iron

Hp = horsepower

In. = inches

LF = Linear Feet

KW = kilo Watt

PVC = Polyvinyl Chloride

qty. = quantity

sf = square feet

Note: Water lines are estimated to be 90% PVC and 10% G.I.

TABLE 2C

Fixed Inventory Summary

Water Distribution System, Canyon Lake Recreation Area, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
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Canyon Lake

AC, main	6-in.	4485	LF	1966
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Galvanized Iron main	2-in.	330	LF	1966
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Gate valve	6-in.	6	EA	1966
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Fire hydrant, wet barrel	5-in.	7	EA	1966
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Water Well

Casing, steel	2 in	360	LF	2002
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Pump, 40 gpm (90,000 gpd)	7.5 HP	1	EA	1995
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Water Plant Building 311

TABLE 2C
Fixed Inventory Summary
Water Distribution System, Canyon Lake Recreation Area, Texas

Potable Water Component	Size	Quantity	Unit	Approximate Year of Construction
Building, wood	330 sf	330	SF	1966
Ion Exchanger (green sand filter)	48" X 84"	2	EA	1980
Chlorine feed pump	10 – 24 gpd	1	EA	1980
Potassium permanganate feed pump	10 – 24 gpd	1	EA	1980
Booster Pump Station 7.5 HP pumps (Bldg. 311)	7.5 HP	2	EA	1966
Ground storage tank – 312 (20,000 GALLONS)	20,000 gal.	1	EA	1966
Pressure tank - #207 (steel)	1,500 gal.	1	EA	1980

Notes:

AC = Asbestos Cement
dia. = diameter
EA = Each
est. = estimated
Ft = feet
Gal. = gallons
Gpm = gallons per minute
Hp = horsepower
In. = inches
LF = Linear Feet
PVC = Polyvinyl Chloride
sf = square feet

J3.2.2 Water Distribution System Non-Fixed Equipment and Specialized Tools

Table 3 lists other ancillary equipment (spare parts), and **Table 4** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 3
Spare Parts
Water Distribution System, Fort Sam Houston, Texas

Qty	Item	Make/Model	Description	Remarks
No spare parts are included with the system to be privatized				

TABLE 4
Specialized Vehicles and Tools
Water Distribution System, Fort Sam Houston, Texas

Qty	Item	Make/Model	Description	Remarks
No specialized vehicles or tools are included with the system to be privatized				

J3.2.3 Water Distribution System Manuals, Drawings, and Records

Table 5 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 5
Manuals, Drawings, and Records
Water Distribution System, Fort Sam Houston, Texas

Qty	Item	Description	Remarks
1	Drawings	Utility Drawings, Water Distribution System, Fort Sam Houston, TX.	
1	Drawings	Utility Drawings, Water Distribution System, Camp Bullis, TX.	
1	Drawings	Utility Drawings, Water Distribution System, Canyon Lake Recreation Area, TX.	
1	CD	GIS maps of Water Distribution System, Fort Sam Houston, TX.	

J3.3 Specific Service Requirements

The service requirements for the Fort Sam Houston water distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Fort Sam Houston water distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

J3.3.1 Digging Permits

J3.3.1.1 Contractor-Provided Permits

Contractor shall participate in the Fort Sam Houston Public Works Business Center (PWBC) digging permit process. The Contractor shall complete the section of the dig permit form, which may impact on the integrity of his Utility Systems and the safety of the requestors and return it to the PWBC, Fort Sam Houston, Texas for each permit within 3 working days of receipt of the form from PWBC. As part of this process, the Contractor shall routinely accept and process digging permit requests from Government work force; military units; maintenance, construction, and Army operations contractors; cable and phone maintenance

and installation companies; fence rental companies; individual residents, and additional entities as identified by Contracting Officer to have a valid need for a digging permit. Contractor shall identify methodology of accepting, processing, approving, and listing reason(s) for disapproval. Contractor shall be responsible for all repairs, costs, and damages due to excavations by others for which he did not properly mark his utilities as part of the PWBC digging permit process.

J3.3.1.2 Fort Sam Houston-Provided Permits

The Contractor shall first obtain digging permits directly from PWBC for utilities owned by the Government before any drilling, digging, or excavation is undertaken. The Contractor shall provide a completed dig permit form available from PWBC, to the PWBC building, Fort Sam Houston, Texas for each permit. Allow 14 Working days for Government review of digging permit requests. A digging permit for a specified area of excavation expires 30 days after the issue date; Contractor must re-apply for a new permit to perform excavation in the area if the excavation was not started within the 30-day period. Permits will identify all underground utilities within 1,500 mm (5 feet) of the designated area. Contractor shall be responsible for all repairs, costs, and damages due to his excavations that fail to comply with the PWBC digging permit process, including excavations extending beyond areas that have been cleared for excavation.

J3.3.1.3 Endangered Species

The following endangered species have protected habitat at Camp Bullis; Rhadine Exilis (beetle), Rhadine Infernalis Ewersi (beetle), Cicurina Madla (meshweaver), Dendroica Chrysoparia (golden-cheeked warbler), and Vireo Atricapillus (black-capped vireo). Caves and underground features provide habitat for the beetles. Trees and brush provide nesting areas for the birds. The Contractor shall coordinate and obtain approval from Camp Bullis Environmental Office prior to performing any operations and maintenance in these designated areas or prior to any system expansion at Camp Bullis.

J3.3.2 Inspection and Maintenance Program

J3.3.2.1 Water Storage Tanks

The Contractor shall allow the Government access to operate and maintain any communication equipment, obstruction lights, emergency warning equipment, public address equipment, and other Government equipment on water storage tanks being privatized. The Contractor shall develop a procedure for granting the Government access. This procedure shall be submitted to the Contracting Officer for approval.

The Contractor shall own, maintain and operate the cathodic protection systems for the water storage tanks and other applicable metal components of the water distribution system. The Contractor shall determine what is required and shall implement cathodic protection as necessary to comply with applicable rules and regulations. The Government reserves the right to review the Contractor's cathodic protection system records.

The Contractor shall adhere to Fort Sam Houston Design Guides for all painting and markings on water storage tanks.

J3.3.2.2 Fire Flow

The Contractor shall perform flow testing and marking of fire hydrants IAW National Fire Protection Association standards/recommended practices. The Government reserves the right to review the Contractor's flow test records.

The Contractor shall operate, maintain, and test the Fort Sam Houston and Camp Bullis water systems IAW Texas Commission on Environmental Quality (TCEQ) regulations. The Contractor shall provide the Contracting Officer with a copy of any and all testing information and reports submitted to the TCEQ within 15 days of submitting the reports to the agency.

The Contractor shall operate, maintain, and test the CLRA water system IAW Texas Commission on Environmental Quality (TCEQ) regulations. The Contractor shall provide the Contracting Officer with a copy of any and all testing information and reports submitted to the TCEQ within 15 days of submitting the reports to the agency. In addition, the Contractor shall flush each fire hydrant by Thursday each week for 20 minutes.

The Contractor shall coordinate any changes to the water distribution system that may affect fire flow capabilities with PWBC and Fort Sam Houston Fire Department.

J3.3.2.3 Cathodic Protection System Maintenance

The Contractor shall own, operate, and maintain the water distribution system cathodic protection systems for carbon steel piping and tanks IAW applicable standards. The Contractor shall determine what is required and shall implement cathodic protection as necessary to comply with applicable rules and regulations. The Government reserves the right to review the Contractor's cathodic protection system records.

J3.3.2.4 Backflow Prevention Devices

The Contractor shall maintain backflow prevention devices IAW with Texas Administrative Code (TAC) 30 TAC 290.44 "Backflow Siphonage".

J3.3.3 Water Production Limits on Fort Sam Houston

Fort Sam Houston's water production limits from its Edwards Aquifer wells on the Main Cantonment are limited based on the Biological Opinion 2-15-98-759 issued by the U.S Fish and Wildlife Service. The Opinion sets DoD's annual groundwater withdrawals from the Edwards Aquifer. Fort Sam Houston was allocated a portion of this allotment by the Military Water Working Group. In addition to the annual allotment, Fort Sam Houston was allocated monthly and daily allotments under drought conditions. . The Contractor shall coordinate with Fort Sam Houston as necessary to ensure pumping capacities do not exceed the levels established by the Military Water Working Group, or any subsequent updates to the Opinion or adjustments by the Military Water Working Group . At a minimum, the Contractor shall report daily pumping rates IAW J3.3.4.1 Water Well Meters, minimize system losses within his control, and support Fort Sam Houston's water conservation initiatives.

J3.3.4 Structures Eligible for Listing on the National Register of Historic Buildings

Buildings 2194 and 3186 on Fort Sam Houston and Building 6210 on Camp Bullis, included in the privatization, are eligible for listing on the National Register of Historic Places. Therefore, the Contractor is subject to Section 106 and 110 responsibilities under the National Historic Preservation Act and the Secretary of Interior Standards for the treatment of historic properties with guidelines for preserving, rehabilitating, restoring, and reconstructing historic buildings in his maintenance, use, and alteration of these structures. Contractor shall comply with 36 C.F.R. 800 and consult with the State Historic Preservation Officer prior to performing maintenance and alteration activities.

J3.3.5 Supervisory Control and Data Acquisition System

The Supervisory Control and Data Acquisition (SCADA) system in place at Fort Sam Houston has not been maintained and is no longer functioning. The Contractor shall install a SCADA system, or an alternate data capturing system approved by the Contracting Officer, that he shall own, operate, and maintain.

The Contractor shall determine the type, extent, and requirements of the SCADA system in accordance with applicable standards. The Contractor shall provide the Government read only access to the SCADA system for monitoring system components on Fort Sam Houston. The Contractor shall coordinate with the Contracting Officer to establish the means for Government access.

- At a minimum, the Contractor shall include real time monitoring for the five wells. Monitoring shall include pump status (H/O/A), pump function (off/on), and amp draw. Real time monitoring shall include pump station flowrate to include instantaneous flowrate in 15 minute increments and total daily consumption.
- At a minimum, the Contractor shall include real time monitoring of water levels in the two Elevated Storage tanks, 1565 and 2600.

J3.3.6 Meters

The Contractor shall operate, maintain, and calibrate all secondary water meters, IAW applicable standards and regulations. The Government reserves the right to review the Contractor's meter and maintenance and calibration records.

J3.3.6.1 Water Well Meters

Daily reporting of water well withdrawals at Fort Sam Houston, Camp Bullis, and CLRA are required by the Government. The Contractor shall maintain, calibrated, properly operating meters on all wells. The Contractor shall provide daily meter readings for all wells IAW Paragraph J3.6.

J3.3.6.2 Secondary Meter Reading

Fort Sam Houston currently reads meters manually. The Contractor shall read meters each month as defined in Paragraph J3.5 *Secondary Metering*.

The Contractor shall keep meter books for all secondary meters with monthly consumption for each meter reading. Meter books shall include building address or facility number,

meter number, previous month readings, current month readings, multipliers for each meter, total monthly consumption, points of contact for meter questions, and procedure for converting meter reads into consumption (including multipliers). The Contractor shall coordinate with the Government to determine the format for meter books to be delivered.

J3.3.7 Re-Use Water System

Fort Sam Houston has installed infrastructure to take advantage of water reclamation offered by the San Antonio Water System (SAWS). Fort Sam Houston purchases high-quality effluent from SAWS to irrigate landscape and as cooling water for facility HVAC systems on Post. Texas Administrative Code requires annual potable water system inspection and testing in areas where re-use water distribution systems also exist. The Contractor shall perform all testing and inspection of his system IAW with federal, state, and local code. Contractor shall submit copies of all tests and inspections to the Contracting Officer by the 15th of the month following such inspections and tests.

J3.3.8 Fire Control and Safety

The Contractor shall abide by Fort Sam Houston fire protection requirements. The utility system purchased by the Contractor may include facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulation, the Contractor shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.

J3.3.9 Restricted Access (Ranges)

The Contractor shall coordinate with and obtain written approval from Fort Sam Houston for entry into the ammo storage facility and Ranges located on Camp Bullis. Access into the fenced area will require additional security clearance and full time military escort. Contractor shall obtain access to this area at the Range Control Building, 6110.

The Contractor shall coordinate with and obtain written approval from Fort Sam Houston Range Control for any future construction in the areas on Camp Bullis managed by Range Control. Contractor shall provide 30 day written notice to Range Control prior to performing any routine maintenance, repairs, construction, or other work on the utility system in the Ranges (all areas managed and controlled by Fort Sam Houston Range control). Contractor shall be required to coordinate all work necessary and as directed by Range Control during emergency response situations.

J3.3.10 Water Treatment

The Contractor shall provide chlorination and fluoridation as part of the distribution service. Chlorination and Fluoridation treatment shall be IAW 30 TAC 290.101 through 290.120 "Drinking Water Standards." In addition, Contractor shall provide hexametaphosphate treatment.

J3.3.11 Crisis Situations

IAW Paragraph C.9.8, *Exercises and Crisis Situations Requiring Utility Support*, the Contractor shall provide support as directed by Fort Sam Houston PWBC or equivalent agency for exercises and crisis situations. Contractor shall submit Emergency Response Plans for approval by the Government for all Exercise and Crisis situations IAW C.9.8.

J3.3.12 Utility System Map Updates

Contractor shall provide updated utility system maps and Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) compatible electronic data formats annually showing the location of Contractor's utility system on Fort Sam Houston, Camp Bullis, and CLRA. Maps and SDSFIE data shall accurately depict the location of all underground and above ground components of the system IAW Section C.5.1.5 *Record Drawings*. Contractor shall indicate changes to the utility system completed since the last update of the electronic submittal. Electronic data submittals shall be compatible with Fort Sam Houston's existing Geographics Information System (GIS) architecture and be GEO referenced to Fort Sam Houston's existing GIS coordinate system. Maps shall be marked for reference use only. One hard copy map and two copies of the electronic data shall be submitted as part of the Contractor's Annual Capital Upgrades and Renewals and Replacements Plan IAW Section C.11.2.4.

J3.3.13 Routine, Urgent, and Emergency Repair Response

Contractor shall respond to routine, urgent, and emergency service requests, whether issued by the government or the Contractor's personnel IAW Section C.8 Repair Response Notification Procedures.

J3.3.13.1 Emergency Service Request

An emergency condition is one that is detrimental to the mission of Fort Sam Houston, significantly impacts operational effectiveness, or compromises the safety, health, and life of personnel. Such requests shall include, but are not necessarily limited to, electrical outages, downed power lines, water outages, broken water mains, natural gas outages, natural gas leaks, or wastewater main overflows.

The Contractor shall ensure it is able to receive emergency service requests 24 hours a day, every day IAW Section C.8 Repair Response Notification Procedures. Once an emergency request is received, the Contractor shall respond immediately. A representative knowledgeable of the system and the Contractor's Service Interruption/Contingency Plan (as required in Section C.7 Response to Service Interruptions and Contingencies) shall be on the site of the emergency within 1 hour. Additionally, repair crews appropriately trained to eliminate the condition must respond to the emergency site within 2 hours. Work will be continuous until the emergency condition is eliminated or downgraded and service is restored. All emergencies will be remedied or downgraded to a non-emergency status within 24 hours.

J3.3.13.2 Urgent Service Requests

An urgent condition is not an emergency but significantly hinders performance of Fort Sam Houston's activities and requires elimination of potential fire, health, and safety hazards (for

example, environmental controls, non-emergency utility leaks, special requests and events, plumbing problems, downgraded emergency responses, etc.).

Once an urgent request is received, the Contractor shall respond with a representative knowledgeable of the system and the Contractor's Service Interruption/Contingency Plan (as required in Section C.7 Response to Service Interruptions and Contingencies). The contractor shall be on the site of the request within 24 hours. All urgent requests will be remedied within 5 calendar days.

J3.3.13.3 Routine Service Requests

A routine service request is one that does not pose an immediate threat to public health, safety, or property, or to a mission or operation conducted at Fort Sam Houston. Such requests may include, but are not necessarily limited to requests for new or relocated service connections.

The Contractor is not required to respond to routine service requests outside normal duty hours. The Contractor may respond to routine service requests outside of normal duty hours at its option and with appropriate coordination. Initial response to any routine service request shall be made within 5 calendar days, and completed within 30 calendar days of receiving the request. After initial response, the Contractor shall pursue completion of routine service requests with due diligence.

J3.4 Current Service Arrangement

Fort Sam Houston currently obtains potable water from Edwards Aquifer wells located on Post. The Army however, may enter into agreements in the future to purchase potable water from other sources. Current peak water demand at Fort Sam Houston Main Post is approximately 98 million gallons (MG) per month.

Camp Bullis currently obtains potable water from the Glen Rose Formation wells located on Post. The Army however, may enter into agreements in the future to purchase potable water from other sources. Current peak water demand at Camp Bullis is approximately 4 million gallons (MG) per month. The wells have a capacity of approximately 1 million gallons per day (MGD).

CLRA currently obtains potable water from the Glen Rose Formation well located on the installation. The Army however, may enter into agreements in the future to purchase potable water from other sources. Current peak water demand at CLRA is approximately 15,000 gallons per day. Average demand is approximately 7,000 to 8,000 gallons per day.

J3.5 Secondary Metering

Between the point of delivery and the end user points of demarcation, the Contractor shall own the existing meters and shall install additional meters at new and upgraded locations as directed by the Contracting Officer.

J3.5.1 Existing Secondary Meters

Tables 6A and 6B lists the existing (at the time of contract award) meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3, *Metering*, J3.3.4, *Meters*, and J3.6, *Monthly Submittals*. The Contractor shall provide daily meter readings for well meters and monthly meter readings for secondary meters.

TABLE 6A

Existing Secondary Meters Located on Fort Sam Houston, Main Post
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address
00020	
00048	2021 Staff Post Rd.
00107	107 Artillery Post Rd.
00268	1490 Wilson St.
00330 North	2405 Scott Rd.
00330 East	2405 Scott Rd.
00331	2403 Scott Rd.
00350 Building	2402 Scott Rd.
00350 Sprinkler Lawn	2402 Scott Rd.
00360 Mech Room	2405 Funston Rd.
00360 Sprinkler	2405 Funston Rd.
00368	1804 Stankley Rd.
00369	1961 Wilson St.
00376	1906 Stanley Rd.
00380 Arby's	
00470	470 Wheaton Rd.
00590	651 Old Austin Rd.
00591	653 Old Austin Rd.
00902	
00904	2321 Harney Rd.
00905	3060 Scott Rd.
00907	2323 Harney Rd.
00908	3064 Scott Rd.
00910	3031 Patch Rd.
00911	3025 Patch Rd.

TABLE 6A

Existing Secondary Meters Located on Fort Sam Houston, Main Post
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address
00912	3033 Patch Rd.
00913	3019 Patch Rd.
00915	3070 Scott Rd.
00916	3116 Scott Rd.
00919	3025 Patch Rd.
00920	3037 Patch Rd.
00922	3110 Scott Rd.
00928	3103 Patch Rd.
00929	3153 Patch Rd.
00930	3041 Patch Rd.
01000	2450 Stanley Rd.
01001	
01002	
01026	
01044	2460 Stanley Rd.
01046	2310 Stanley Rd.
00188 Boiler Only	
01111	2750 Forage Ave.
01150	2721 Mc Idoe Rd.
01151	2751 Mc Idoe Rd.
01152	2771 Mc Idoe Rd.
01153	2770 Zinn Rd.
01154	2720 Zinn Rd.
01156	2723 Mc Idoe Rd.
01158	2721 Zinn Rd.
01159	2751 Zinn Rd.
01160	2771 Zinn Rd.
01161	2791 Zinn Rd.
01162	2753 Zinn Rd.
01222	2601 Harney Rd.
01240	2740 Harney Rd.

TABLE 6A

Existing Secondary Meters Located on Fort Sam Houston, Main Post
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address
01278	2981 Garden Ave.
01279	2991 Garden Ave.
01281	3041 Garden Ave.
01290	3061 Garden Ave.
01384	3055 Garden Ave.
01387	3510 Garden Ave.
01397	3105 Garden Ave.
01440	3111 Binz-Engleman Rd.
01441	3121 Binz-Engleman Rd.
01442	3113 Binz-Engleman Rd.
01443	3123 Binz-Engleman Rd.
01444	3020 Parrish Rd.
01445	3030 Parrish Rd.
01446	3131 Binz-Engleman Rd.
01447	3141 Binz-Engleman Rd.
01448	3151 Binz-Engleman Rd.
01449	3161 Binz-Engleman Rd.
01450	3153 Binz-Engleman Rd.
01451	3143 Binz-Engleman Rd.
01452	3133 Binz-Engleman Rd.
01462	2962 WW White Rd.
01520	1920 Harry Wurzbach Hwy.
01521	1924 Harry Wurzbach Hwy.
01610	2010 Harry Wurzbach Hwy.
01611	2012 Harry Wurzbach Hwy.
01630	3711 Watkins Blvd.
01702 School Office	
01720	3700 Dodd Blvd.
02000	1107 Army Blvd.
02002	2507 Dunstan Blvd.
02005	1263 Buck Rd.

TABLE 6A

Existing Secondary Meters Located on Fort Sam Houston, Main Post
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address
02006	2503 Dunstan Blvd.
02007	2509 Dunstan Blvd.
02008	2501 Dunstan Blvd.
02010 Cooling Tower	1110 Beebe Rd.
02061	1200 Buck Rd.
02064	2506 Dunstan Blvd.
02186 vet	2133 N. Pine St.
02187	2133 N. Pine St.
02188	2121 N. Pine St.
02195	2115 N. Pine St.
02200	1605 Wilson St.
02201	
02225	1508 Stanley Rd.
02244	1503 Wilson St.
02247	2412 N. New Braunfels Ave.
02248	2408 N. New Braunfels Ave.
02256	2402 N. New Braunfels Ave.
02263	1706 Stanley Rd.
02266	2405 Reynolds Rd.
02267	2406 N. New Braunfels Ave.
02268	1608 Stanley Rd.
02269	2410 N. New Braunfels Ave.
02270	1606 Stanley Rd.
02271	1601 Stanley Rd.
02272	1550 Stanley Rd.
02273	1552 Stanley Rd.
02370	1606 Stanley Rd.
02371	2051 Henry T. Allen Rd.
02372	2050 Rd. No. S-21
02375	1960 Stanley Rd.
02378	2051 Taylor Rd.

TABLE 6A

Existing Secondary Meters Located on Fort Sam Houston, Main Post
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address
02380	2053 Taylor Rd.
02382	2049 Taylor Rd.
02383	
02398	2605 Scott Rd.
02400	2551 7th St.
02401	2555 7th St.
02410	2811 Funston Rd.
02411	2813 Funston Rd.
02427	2698 Scott Rd.
02434	2661 Funston Rd.
02500	
02521	2811 Patch Rd.
02540	2508 Funston Rd.
02610	2305 Schofield Rd.
02650	2935 Patch Rd.
02652	2630 Harney Rd.
02657	2330 Harney Rd.
02735	2080 Hardee Rd.
02750 Credit Union	
02785	3057 Scott Rd.
02789	3053 Scott Rd.
02900	1050 Harry Wurzbach Hwy.
02902	1048 Harry Wurzbach Hwy.
02907 Well & Meter Golf Course	
02912	1056 Harry Wurzbach Hwy.
02915	
02916	
03180	
03556	
03557	
03605	3500 Rawley E. Chambers Ave.

TABLE 6A

Existing Secondary Meters Located on Fort Sam Houston, Main Post
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address
03623	3055 Rawley E. Chambers Ave.
03624	3053 Rawley E. Chambers Ave.
03830	2901 Schofield Rd.
03896	3050 Binz-Engleman Rd.
03897	3054 Binz-Engleman Rd.
03898	3060 Binz-Engleman Rd.

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
1003	1003 Gorgas Cir	3/4	1984
1004	1004 Gorgas Cir	3/4	1984
1005	1005 Gorgas Cir	3/4	1984
1006	1006 Gorgas Cir	3/4	1984
1007	1007 Gorgas Cir	3/4	1984
1008	1008 Gorgas Cir	3/4	1984
1009	1009 Gorgas Cir	3/4	1984
101	101 Artillery Post Rd.	3/4	1984
1010	1010 Gorgas Cir	3/4	1984
1011	1011 Gorgas Cir	3/4	1984
1012	1012 Gorgas Cir	3/4	1984
1013	1013 Gorgas Cir	3/4	1984
1014	1014 Gorgas Cir	3/4	1984
1015	1015 Gorgas Cir	3/4	1984
1016	1016 Gorgas Cir	3/4	1984
1017	1017 Gorgas Cir	3/4	1984
102	102 Artillery Post Rd.	3/4	1984
103	103 Artillery Post Rd.	3/4	1984
104	104 Artillery Post Rd.	3/4	1984

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
105	105 Artillery Post Rd.	3/4	1984
106	106 Artillery Post Rd.	3/4	1984
107	107 Artillery Post Rd.	3/4	1984
108	108 Artillery Post Rd.	3/4	1984
109	109 Artillery Post Rd.	3/4	1984
110	110 Artillery Post Rd.	3/4	1984
111	111 Artillery Post Rd.	3/4	1984
112	112 Artillery Post Rd.	3/4	1984
113	113 Artillery Post Rd.	3/4	1984
114	114 Artillery Post Rd.	3/4	1984
115	115 Artillery Post Rd.	3/4	1984
116	116 Artillery Post Rd.	3/4	1984
117	117 Artillery Post Rd.	3/4	1984
118	118 Artillery Post Rd.	3/4	1984
119	119 Artillery Post Rd.	3/4	1984
120	120 Artillery Post Rd.	3/4	1984
121	121 Artillery Post Rd.	3/4	1984
160	160 Artillery Post Rd.	3/4	1984
162	162 Artillery Post Rd.	3/4	1984
164	164 Artillery Post Rd.	3/4	1984
165	165 Artillery Post Rd.	3/4	1984
166	166 Artillery Post Rd.	3/4	1984
167	167 Artillery Post Rd.	3/4	1984
168	168 Artillery Post Rd.	3/4	1984
169	169 Artillery Post Rd.	3/4	1984
170	170 Artillery Post Rd.	3/4	1984
171	171 Artillery Post Rd.	3/4	1984
172	172 Artillery Post Rd.	3/4	1984
173	173 Artillery Post Rd.	3/4	1984
174	174 Artillery Post Rd.	3/4	1984
175	175 Artillery Post Rd.	3/4	1984

TABLE 6B
Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
176	176 Artillery Post Rd.	3/4	1984
177	177 Artillery Post Rd.	3/4	1984
178	178 Artillery Post Rd.	3/4	1984
179	179 Artillery Post Rd.	3/4	1984
180	180 Artillery Post Rd.	3/4	1984
181	181 Artillery Post Rd.	3/4	1984
182	182 Artillery Post Rd.	3/4	1984
183	183 Artillery Post Rd.	3/4	1984
184	184 Artillery Post Rd.	3/4	1984
9661A	661A W. Infantry Post Rd.	3/4	1984
9661B	661B W. Infantry Post Rd.	3/4	1984
9662A	662A W. Infantry Post Rd.	3/4	1984
9663A	663A W. Infantry Post Rd.	3/4	1984
9663B	663B W. Infantry Post Rd.	3/4	1984
9664A	664A W. Infantry Post Rd.	3/4	1984
9664B	664B W. Infantry Post Rd.	3/4	1984
9665A	665A Infantry Post Rd.	3/4	1984
9665B	665B Infantry Post Rd.	3/4	1984
9666A	666A N. Infantry Post Rd.	3/4	1984
9666B	666B N. Infantry Post Rd.	3/4	1984
9667A	667A N. Infantry Post Rd.	3/4	1984
9667B	667B N. Infantry Post Rd.	3/4	1984
9668A	668A S. Infantry Post Rd.	3/4	1984
9668B	668B S. Infantry Post Rd.	3/4	1984
9669A	669A S. Infantry Post Rd.	3/4	1984
9669B	669B S. Infantry Post Rd.	3/4	1984
9670A	670A N. Infantry Post Rd.	3/4	1984
9670B	670B N. Infantry Post Rd.	3/4	1984
9671A	671A S. Infantry Post Rd.	3/4	1984
9671B	671B S. Infantry Post Rd.	3/4	1984
9672A	672A N. Infantry Post Rd.	3/4	1984

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
9672B	672B N. Infantry Post Rd.	3/4	1984
9673A	673A S. Infantry Post Rd.	3/4	1984
9677B	677B E. Infantry Post Rd.	3/4	1984
9678A	678A E. Infantry Post Rd.	3/4	1984
9678B	678B E. Infantry Post Rd.	3/4	1984
9679A	679A Infantry Post Rd.	3/4	1984
9679B	679B Infantry Post Rd.	3/4	1984
9680A	680A Infantry Post Rd.	3/4	1984
9680B	680B Infantry Post Rd.	3/4	1984
9681A	681A Infantry Post Rd.	3/4	1984
9681B	681B Infantry Post Rd.	3/4	1984
9682A	682A Infantry Post Rd.	3/4	1984
9682B	682B Infantry Post Rd.	3/4	1984
9683A	683A Infantry Post Rd.	3/4	1984
9683B	683B Infantry Post Rd.	3/4	1984
9684A	684A Infantry Post Rd.	3/4	1984
9684B	684B Infantry Post Rd.	3/4	1984
618	618 W. Infantry Post Rd.	3/4	1994
619	619 W. Infantry Post Rd.	3/4	1994
620	620 W. Infantry Post Rd.	3/4	1994
621	621 W. Infantry Post Rd.	3/4	1994
622	622 W. Infantry Post Rd.	3/4	1994
623	623 W. Infantry Post Rd.	3/4	1994
625	625 W. Infantry Post Rd.	3/4	1994
627	627 S. Infantry Post Rd.	3/4	1994
628	628 N. Infantry Post Rd.	3/4	1994
629	629 S. Infantry Post Rd.	3/4	1994
630	630 N. Infantry Post Rd.	3/4	1994
631	631 S. Infantry Post Rd.	3/4	1994
632	632 N. Infantry Post Rd.	3/4	1994
633	633 S. Infantry Post Rd.	3/4	1994

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
634	634 N. Infantry Post Rd.	3/4	1994
635	635 S. Infantry Post Rd.	3/4	1994
636	636 N. Infantry Post Rd.	3/4	1994
637	637 S. Infantry Post Rd.	3/4	1994
638	638 N. Infantry Post Rd.	3/4	1994
640	640 N. Infantry Post Rd.	3/4	1994
642	642 N. Infantry Post Rd.	3/4	1994
700	700 Patch Rd.	3/4	1994
701	701 Patch Rd.	3/4	1994
702	702 Patch Rd.	3/4	1994
703	703 Patch Rd.	3/4	1994
704	704 Patch Rd.	3/4	1994
705	705 Patch Rd.	3/4	1994
706	706 Patch Rd.	3/4	1994
707	707 Patch Rd.	3/4	1994
708	708 Patch Rd.	3/4	1994
709	709 Patch Rd.	3/4	1994
710	710 Patch Rd.	3/4	1994
711	711 Patch Rd.	3/4	1994
712	712 Patch Rd.	3/4	1994
713	713 Patch Rd.	3/4	1994
714	714 Patch Rd.	3/4	1994
715	715 Patch Rd.	3/4	1994
716	716 Patch Rd.	3/4	1994
717	717 Patch Rd.	3/4	1994
718	718 Patch Rd.	3/4	1994
719	719 Patch Rd.	3/4	1994
720	720 Patch Rd.	3/4	1994
721	721 Patch Rd.	3/4	1994
722	722 Patch Rd.	3/4	1994
723	723 Patch Rd.	3/4	1994

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
724	724 Patch Rd.	3/4	1994
725	725 Patch Rd.	3/4	1994
726	726 Patch Rd.	3/4	1994
727	727 Patch Rd.	3/4	1994
728	728 Patch Rd.	3/4	1994
729	729 Patch Rd.	3/4	1994
730	730 Patch Rd.	3/4	1994
731	731 Patch Rd.	3/4	1994
732	732 Patch Rd.	3/4	1994
733	733 Patch Rd.	3/4	1994
734	734 Patch Rd.	3/4	1994
735	735 Patch Rd.	3/4	1994
750	750 Chaffee Rd.	3/4	1994
751	751 Chaffee Rd.	3/4	1994
752	752 Chaffee Rd.	3/4	1994
753	753 Chaffee Rd.	3/4	1994
754	754 Chaffee Rd.	3/4	1994
755	755 Chaffee Rd.	3/4	1994
756	756 Chaffee Rd.	3/4	1994
757	757 Chaffee Rd.	3/4	1994
758	758 Chaffee Rd.	3/4	1994
759	759 Chaffee Rd.	3/4	1994
760	760 Chaffee Rd.	3/4	1994
761	761 Chaffee Rd.	3/4	1994
762	762 Chaffee Rd.	3/4	1994
763	763 Chaffee Rd.	3/4	1994
764	764 Chaffee Rd.	3/4	1994
765	765 Chaffee Rd.	3/4	1994
766	766 Chaffee Rd.	3/4	1994
767	767 Chaffee Rd.	3/4	1994
768	768 Chaffee Rd.	3/4	1994

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
769	769 Chaffee Rd.	3/4	1994
770	770 Chaffee Rd.	3/4	1994
771	771 Chaffee Rd.	3/4	1994
772	772 Chaffee Rd.	3/4	1994
773	773 Chaffee Rd.	3/4	1994
774	774 Chaffee Rd.	3/4	1994
775	775 Chaffee Rd.	3/4	1994
776	776 Chaffee Rd.	3/4	1994
777	777 Chaffee Rd.	3/4	1994
778	778 Chaffee Rd.	3/4	1994
779	779 Chaffee Rd.	3/4	1994
780	780 Chaffee Rd.	3/4	1994
781	781 Chaffee Rd.	3/4	1994
782	782 Chaffee Rd.	3/4	1994
783	783 Chaffee Rd.	3/4	1994
784	784 Chaffee Rd.	3/4	1994
785	785 Chaffee Rd.	3/4	1994
808	808 Patch Rd.	3/4	1994
809	809 Patch Rd.	3/4	1994
810	810 Patch Rd.	3/4	1994
811	811 Patch Rd.	3/4	1994
812	812 Patch Rd.	3/4	1994
813	813 Patch Rd.	3/4	1994
814	814 Patch Rd.	3/4	1994
815	815 Patch Rd.	3/4	1994
816	816 Patch Rd.	3/4	1994
817	817 Patch Rd.	3/4	1994
818	818 Patch Rd.	3/4	1994
819	819 Patch Rd.	3/4	1994
820	820 Patch Rd.	3/4	1994
821	821 Patch Rd.	3/4	1994

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
822	822 Patch Rd.	3/4	1994
823	823 Patch Rd.	3/4	1994
824	824 Patch Rd.	3/4	1994
825	825 Patch Rd.	3/4	1994
826	826 Patch Rd.	3/4	1994
827	827 Patch Rd.	3/4	1994
828	828 Patch Rd.	3/4	1994
829	829 Patch Rd.	3/4	1994
830	830 Patch Rd.	3/4	1994
831	831 Patch Rd.	3/4	1994
832	832 Patch Rd.	3/4	1994
833	833 Patch Rd.	3/4	1994
834	834 Patch Rd.	3/4	1994
837	837 Chaffee Rd.	3/4	1994
838	838 Chaffee Rd.	3/4	1994
839	839 Chaffee Rd.	3/4	1994
840	840 Chaffee Rd.	3/4	1994
841	841 Chaffee Rd.	3/4	1994
842	842 Chaffee Rd.	3/4	1994
843	843 Chaffee Rd.	3/4	1994
844	844 Chaffee Rd.	3/4	1994
845	845 Chaffee Rd.	3/4	1994
846	846 Chaffee Rd.	3/4	1994
847	847 Chaffee Rd.	3/4	1994
848	848 Chaffee Rd.	3/4	1994
849	849 Chaffee Rd.	3/4	1994
850	850 Chaffee Rd.	3/4	1994
851	851 Chaffee Rd.	3/4	1994
852	852 Chaffee Rd.	3/4	1994
853	853 Chaffee Rd.	3/4	1994
854	854 Chaffee Rd.	3/4	1994

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
855	855 Chaffee Rd.	3/4	1994
856	856 Chaffee Rd.	3/4	1994
857	857 Chaffee Rd.	3/4	1994
858	858 Chaffee Rd.	3/4	1994
859	859 Chaffee Rd.	3/4	1994
860	860 Chaffee Rd.	3/4	1994
861	861 Chaffee Rd.	3/4	1994
862	862 Chaffee Rd.	3/4	1994
863	863 Chaffee Rd.	3/4	1994
864	864 Chaffee Rd.	3/4	1994
865	865 Chaffee Rd.	3/4	1994
866	866 Chaffee Rd.	3/4	1994
867	867 Chaffee Rd.	3/4	1994
868	868 Chaffee Rd.	3/4	1994
869	869 Chaffee Rd.	3/4	1994
870	870 Chaffee Rd.	3/4	1994
871	871 Chaffee Rd.	3/4	1994
872	872 Chaffee Rd.	3/4	1994
873	873 Chaffee Rd.	3/4	1994
875	875 Chaffee Rd.	3/4	1994
877	877 Chaffee Rd.	3/4	1994
878	879 Chaffee Rd.	3/4	1994
881	881 Chaffee Rd.	3/4	1994
4800A	4800A Gardner Cir	3/4	1997
4800B	4800B Gardner Cir	3/4	1997
4812A	4812A Gardner Cir	3/4	1997
4812B	4812B Gardner Cir	3/4	1997
4824A	4824A Gardner Cir	3/4	1997
4824B	4824B Gardner Cir	3/4	1997
4836A	4836A Gardner Cir	3/4	1997
4836B	4836B Gardner Cir	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
4848A	4848A Gardner Cir	3/4	1997
4848B	4848B Gardner Cir	3/4	1997
4860A	4860A Gardner Cir	3/4	1997
4860B	4860B Gardner Cir	3/4	1997
4872A	4872A Gardner Cir	3/4	1997
4872B	4872B Gardner Cir	3/4	1997
4901A	4901A Ashby Cir	3/4	1997
4901B	4901B Ashby Cir	3/4	1997
4913A	4913A Ashby Cir	3/4	1997
4913B	4913B Ashby Cir	3/4	1997
4925A	4925A Ashby Cir	3/4	1997
4925B	4925B Ashby Cir	3/4	1997
4937A	4937A Ashby Cir	3/4	1997
4937B	4937B Ashby Cir	3/4	1997
4949A	4949A Ashby Cir	3/4	1997
4949B	4949B Ashby Cir	3/4	1997
5024A	5024A Bondsteel Cir	3/4	1997
5101A	5101A Rodrigues Cir	3/4	1997
5101B	5101B Rodrigues Cir	3/4	1997
5113A	5113A Rodrigues Cir	3/4	1997
5113B	5113B Rodrigues Cir	3/4	1997
5125A	5125A Rodrigues Cir	3/4	1997
5125B	5125B Rodrigues Cir	3/4	1997
5137A	5137A Rodrigues Cir	3/4	1997
5137B	5137B Rodrigues Cir	3/4	1997
5149A	5149A Rodrigues Cir	3/4	1997
5149B	5149B Rodrigues Cir	3/4	1997
5161A	5161A Rodrigues Cir	3/4	1997
5161B	5161B Rodrigues Cir	3/4	1997
5173A	5173A Rodrigues Cir	3/4	1997
5173B	5173B Rodrigues Cir	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
5185A	5185A Rodrigues Cir	3/4	1997
5185B	5185B Rodrigues Cir	3/4	1997
5197A	5197A Rodrigues Cir	3/4	1997
5197B	5197B Rodrigues Cir	3/4	1997
5200A	5200A Barkely Cir	3/4	1997
5200B	5200B Barkely Cir	3/4	1997
5212A	5212A Barkely Cir	3/4	1997
5212B	5212B Barkely Cir	3/4	1997
5224A	5224A Barkely Cir	3/4	1997
5224B	5224B Barkely Cir	3/4	1997
5236A	5236A Barkely Cir	3/4	1997
5236B	5236B Barkely Cir	3/4	1997
5248A	5248A Barkely Cir	3/4	1997
5248B	5248B Barkely Cir	3/4	1997
5260A	5260A Barkely Cir	3/4	1997
5260B	5260B Barkely Cir	3/4	1997
5272A	5272A Barkely Cir	3/4	1997
5272B	5272B Barkely Cir	3/4	1997
5284A	5284A Barkely Cir	3/4	1997
5296A	5296A Barkely Cir	3/4	1997
5296B	5296B Barkely Cir	3/4	1997
5400A	5400A Johnston Cir	3/4	1997
5400B	5400B Johnston Cir	3/4	1997
5412A	5412A Johnston Cir	3/4	1997
5412B	5412B Johnston Cir	3/4	1997
5501A	5501A Dean Cir	3/4	1997
5502B	5502B Dean Cir	3/4	1997
5513A	5513A Dean Cir	3/4	1997
5513B	5513B Dean Cir	3/4	1997
5525A	5525A Dean Cir	3/4	1997
5525B	5525B Dean Cir	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
5537A	5537A Dean Cir	3/4	1997
5537B	5537B Dean Cir	3/4	1997
5549A	5549A Dean Cir	3/4	1997
5549B	5549B Dean Cir	3/4	1997
5561A	5561A Dean Cir	3/4	1997
5561B	5561B Dean Cir	3/4	1997
5573A	5573A Dean Cir	3/4	1997
5573B	5573B Dean Cir	3/4	1997
5701A	5701A Burge Cir	3/4	1997
5701B	5701B Burge Cir	3/4	1997
5713A	5713A Burge Cir	3/4	1997
5713B	5713B Burge Cir	3/4	1997
5725A	5725A Burge Cir	3/4	1997
5725B	5725B Burge Cir	3/4	1997
5725B	5725B Meeks Cir	3/4	1997
5737A	5737A Burge Cir	3/4	1997
5737B	5737B Burge Cir	3/4	1997
5749A	5749A Burge Cir	3/4	1997
5749B	5749B Burge Cir	3/4	1997
5761A	5761A Burge Cir	3/4	1997
5761B	5761B Burge Cir	3/4	1997
5773A	5773A Burge Cir	3/4	1997
5773B	5773B Burge Cir	3/4	1997
5901A	5901A Buckner Ct	3/4	1997
5901B	5901B Buckner Ct	3/4	1997
5907A	5907A Buckner Ct	3/4	1997
5907B	5907B Buckner Ct	3/4	1997
5913A	5913A Buckner Ct	3/4	1997
5913B	5913B Buckner Ct	3/4	1997
5919A	5919A Buckner Ct	3/4	1997
5919B	5919B Buckner Ct	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
5925A	5925A Buckner Ct	3/4	1997
5925B	5925B Buckner Ct	3/4	1997
5931A	5931A Buckner Ct	3/4	1997
5931B	5931B Buckner Ct	3/4	1997
5937A	5937A Buckner Ct	3/4	1997
5937B	5937B Buckner Ct	3/4	1997
5943A	5943A Buckner Ct	3/4	1997
5943B	5943B Buckner Ct	3/4	1997
6000A	6000A Bondsteel Cir	3/4	1997
6000B	6000B Bondsteel Cir	3/4	1997
6012A	6012A Bondsteel Cir	3/4	1997
6012B	6012B Bondsteel Cir	3/4	1997
6024B	6024B Bondsteel Cir	3/4	1997
6036A	6036A Bondsteel Cir	3/4	1997
6036B	6036B Bondsteel Cir	3/4	1997
6048A	6048A Bondsteel Cir	3/4	1997
6048B	6048B Bondsteel Cir	3/4	1997
6060A	6060A Bondsteel Cir	3/4	1997
6060B	6060B Bondsteel Cir	3/4	1997
6072A	6072A Bondsteel Cir	3/4	1997
6072B	6072B Bondsteel Cir	3/4	1997
6084A	6084A Bondsteel Cir	3/4	1997
6084B	6084B Bondsteel Cir	3/4	1997
6101A	6101A Decker Cir	3/4	1997
6101B	6101B Decker Cir	3/4	1997
6107A	6107A Decker Cir	3/4	1997
6107B	6107B Decker Cir	3/4	1997
6113A	6113A Decker Cir	3/4	1997
6113B	6113B Decker Cir	3/4	1997
6119A	6119A Decker Cir	3/4	1997
6119B	6119B Decker Cir	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
6125A	6125A Decker Cir	3/4	1997
6125B	6125B Decker Cir	3/4	1997
6131A	6131A Decker Cir	3/4	1997
6131B	6131B Decker Cir	3/4	1997
6137A	6137A Decker Cir	3/4	1997
6137B	6137B Decker Cir	3/4	1997
6143A	6143A Decker Cir	3/4	1997
6143B	6143B Decker Cir	3/4	1997
6149A	6149A Decker Cir	3/4	1997
6149B	6149B Decker Cir	3/4	1997
6155A	6155A Decker Cir	3/4	1997
6155B	6155B Decker Cir	3/4	1997
6301A	6301A Kimbro Dr	3/4	1997
6301B	6301B Kimbro Dr	3/4	1997
6313A	6313A Kimbro Dr	3/4	1997
6313B	6313B Kimbro Dr	3/4	1997
6325A	6325A Kimbro Dr	3/4	1997
6325B	6325B Kimbro Dr	3/4	1997
6337A	6337A Kimbro Dr	3/4	1997
6337B	6337B Kimbro Dr	3/4	1997
6412A	6412A Calugas Ct	3/4	1997
6412B	6412B Calugas Ct	3/4	1997
6424A	6424A Calugas Ct	3/4	1997
6424B	6424B Calugas Ct	3/4	1997
6436A	6436A Calugas Ct	3/4	1997
6436B	6436B Calugas Ct	3/4	1997
6448A	6448A Calugas Ct	3/4	1997
6448B	6448B Calugas Ct	3/4	1997
6460A	6460A Calugas Ct	3/4	1997
6460B	6460B Calugas Ct	3/4	1997
6501A	6501A Farr Cir	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
6501B	6501B Farr Cir	3/4	1997
6513A	6513A Farr Cir	3/4	1997
6513B	6513B Farr Cir	3/4	1997
6525A	6525A Farr Cir	3/4	1997
6525B	6525B Farr Cir	3/4	1997
6537A	6537A Farr Cir	3/4	1997
6537B	6537B Farr Cir	3/4	1997
6549A	6549A Farr Cir	3/4	1997
6549B	6549B Farr Cir	3/4	1997
6561A	6561A Farr Cir	3/4	1997
6561B	6561B Farr Cir	3/4	1997
6573A	6573A Farr Cir	3/4	1997
6573B	6573B Farr Cir	3/4	1997
6585A	6585A Farr Cir	3/4	1997
6585B	6585B Farr Cir	3/4	1997
6701A	6701A Meeks Cir	3/4	1997
6701B	6701B Meeks Cir	3/4	1997
6713A	6713A Meeks Cir	3/4	1997
6713B	6713B Meeks Cir	3/4	1997
6725A	6725A Meeks Cir	3/4	1997
6737A	6737A Meeks Cir	3/4	1997
6737B	6737B Meeks Cir	3/4	1997
6749A	6749A Meeks Cir	3/4	1997
6749B	6749B Meeks Cir	3/4	1997
6761A	6761A Meeks Cir	3/4	1997
6761B	6761B Meeks Cir	3/4	1997
6773A	6773A Meeks Cir	3/4	1997
6773B	6773B Meeks Cir	3/4	1997
6785A	6785A Meeks Cir	3/4	1997
6785B	6785B Meeks Cir	3/4	1997
6797A	6797A Meeks Cir	3/4	1997

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
6797B	6797B Meeks Cir	3/4	1997
6848A	6848A Vidales Cir	3/4	1997
6848B	6848B Vidales Cir	3/4	1997
6860A	6860A Vidales Cir	3/4	1997
6860B	6860B Vidales Cir	3/4	1997
6872A	6872A Vidales Cir	3/4	1997
6872B	6872B Vidales Cir	3/4	1997
6884A	6884A Vidales Cir	3/4	1997
6884B	6884B Vidales Cir	3/4	1997
6901A	6901A Odom Cir	3/4	1997
6901B	6901B Odom Cir	3/4	1997
6913A	6913A Odom Cir	3/4	1997
6913B	6913B Odom Cir	3/4	1997
6925A	6925A Odom Cir	3/4	1997
6925B	6925B Odom Cir	3/4	1997
6937A	6937A Odom Cir	3/4	1997
6937B	6937B Odom Cir	3/4	1997
6949A	6949A Odom Cir	3/4	1997
6949B	6949B Odom Cir	3/4	1997
6961A	6961A Odom Cir	3/4	1997
6961B	6961B Odom Cir	3/4	1997
617	617 Grayson St.	1 1/2	1984
1	1 Staff Post Rd.	1 1/2	1999
10	10 Staff Post Rd.	1 1/2	1999
11	11 Staff Post Rd.	1 1/2	1999
12	12 Staff Post Rd.	1 1/2	1999
13	13 Staff Post Rd.	1 1/2	1999
14	14 Staff Post Rd.	1 1/2	1999
15	15 Staff Post Rd.	1 1/2	1999
2	2 Staff Post Rd.	1 1/2	1999
3	3 Staff Post Rd.	1 1/2	1999

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
4	4 Staff Post Rd.	1 1/2	1999
5	5 Staff Post Rd.	1 1/2	1999
6	6 Staff Post Rd.	1 1/2	1999
7	7 Staff Post Rd.	1 1/2	1999
8	8 Staff Post Rd.	1 1/2	1999
9	9 Staff Post Rd.	1 1/2	1999
400	400 Dickman Rd.	1 1/2	2001
401	401 Dickman Rd.	1 1/2	2001
402	402 Dickman Rd.	1 1/2	2001
403	403 Dickman Rd.	1 1/2	2001
404	404 Dickman Rd.	1 1/2	2001
405	405 Dickman Rd.	1 1/2	2001
406	406 Dickman Rd.	1 1/2	2001
407	407 Dickman Rd.	1 1/2	2001
408	408 Dickman Rd.	1 1/2	2001
409	409 Dickman Rd.	1 1/2	2001
410	410 Dickman Rd.	1 1/2	2001
411	411 Dickman Rd.	1 1/2	2001
412	412 Dickman Rd.	1 1/2	2001
413	413 Dickman Rd.	1 1/2	2001
414	414 Dickman Rd.	1 1/2	2001
415	415 Dickman Rd.	1 1/2	2001
416	416 Dickman Rd.	1 1/2	2001
417	417 Dickman Rd.	1 1/2	2001
418	418 Dickman Rd.	1 1/2	2001
419	419 Dickman Rd.	1 1/2	2001
420	420 Dickman Rd.	1 1/2	2001
421	421 Dickman Rd.	1 1/2	2001
422	422 Dickman Rd.	1 1/2	2001
423	423 Dickman Rd.	1 1/2	2001
424	424 Dickman Rd.	1 1/2	2001

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
425	425 Graham Rd.	1 1/2	2003
426	426 Graham Rd.	1 1/2	2003
427	427 Graham Rd.	1 1/2	2003
428	428 Graham Rd.	1 1/2	2003
429	429 Graham Rd.	1 1/2	2003
430	430 Graham Rd.	1 1/2	2003
431	431 Graham Rd.	1 1/2	2003
432	432 Graham Rd.	1 1/2	2003
433	433 Graham Rd.	1 1/2	2003
434	434 Graham Rd.	1 1/2	2003
435	435 Graham Rd.	1 1/2	2003
436	436 Graham Rd.	1 1/2	2003
437	437 Graham Rd.	1 1/2	2003
438	438 Graham Rd.	1 1/2	2003
439	439 Graham Rd.	1 1/2	2003
440	440 Graham Rd.	1 1/2	2003
441	441 Graham Rd.	1 1/2	2003
442	442 Graham Rd.	1 1/2	2003
443	443 Graham Rd.	1 1/2	2003
444	444 Graham Rd.	1 1/2	2003
445	445 Graham Rd.	1 1/2	2003
446	446 Graham Rd.	1 1/2	2003
447	447 Graham Rd.	1 1/2	2003
448	448 Graham Rd.	1 1/2	2003
449	449 Graham Rd.	1 1/2	2003
450	450 Graham Rd.	1 1/2	2003
451	451 Graham Rd.	1 1/2	2003
452	452 Graham Rd.	1 1/2	2003
454	454 Graham Rd.	1 1/2	2003
455	455 Graham Rd.	1 1/2	2003
456	456 Graham Rd.	1 1/2	2003

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
457	457 Graham Rd.	1 1/2	2003
458	458 Graham Rd.	1 1/2	2003
459	459 Graham Rd.	1 1/2	2003
460	460 Graham Rd.	1 1/2	2003
461	461 Graham Rd.	1 1/2	2003
462	462 Graham Rd.	1 1/2	2003
463	463 Graham Rd.	1 1/2	2003
464	464 Graham Rd.	1 1/2	2003
465	465 Graham Rd.	1 1/2	2003
468	468 Graham Rd.	1 1/2	2003
469	469 Graham Rd.	1 1/2	2003
470	470 Wheaton Rd.	1 1/2	2003
471	471 Wheaton Rd.	1 1/2	2003
472	472 Wheaton Rd.	1 1/2	2003
473	473 Wheaton Rd.	1 1/2	2003
474	474 Wheaton Rd.	1 1/2	2003
475	475 Wheaton Rd.	1 1/2	2003
476	476 Wheaton Rd.	1 1/2	2003
477	477 Wheaton Rd.	1 1/2	2003
478	478 Wheaton Rd.	1 1/2	2003
479	479 Wheaton Rd.	1 1/2	2003
480	480 Wheaton Rd.	1 1/2	2003
481	481 Wheaton Rd.	1 1/2	2003
482	482 Wheaton Rd.	1 1/2	2003
483	483 Wheaton Rd.	1 1/2	2003
484	484 Wheaton Rd.	1 1/2	2003
485	485 Wheaton Rd.	1 1/2	2003
486	486 Wheaton Rd.	1 1/2	2003
487	487 Wheaton Rd.	1 1/2	2003
488	488 Wheaton Rd.	1 1/2	2003
489	489 Wheaton Rd.	1 1/2	2003

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
490	490 Wheaton Rd.	1 1/2	2003
491	491 Wheaton Rd.	1 1/2	2003
492	492 Wheaton Rd.	1 1/2	2003
493	493 Wheaton Rd.	1 1/2	2003
496	496 Wheaton Rd.	1 1/2	2003
500	500 Dickman Rd.	1 1/2	2003
501	501 Wheaton Rd.	1 1/2	2003
513	513 Wheaton Rd.	1 1/2	2003
515	515 Wheaton Rd.	1 1/2	2003
516	516 Wheaton Rd.	1 1/2	2003
517	517 Wheaton Rd.	1 1/2	2003
518	518 Wheaton Rd.	1 1/2	2003
519	519 Wheaton Rd.	1 1/2	2003
520	520 Wheaton Rd.	1 1/2	2003
521	521 Wheaton Rd.	1 1/2	2003
522	522 Wheaton Rd.	1 1/2	2003
523	523 Wheaton Rd.	1 1/2	2003
524	524 Wheaton Rd.	1 1/2	2003
525	525 Wheaton Rd.	1 1/2	2003
526	526 Wheaton Rd.	1 1/2	2003
527	527 Wheaton Rd.	1 1/2	2003
530	530 Wheaton Rd.	1 1/2	2003
531	531 Wheaton Rd.	1 1/2	2003
532	532 Wheaton Rd.	1 1/2	2003
533	533 Wheaton Rd.	1 1/2	2003
534	534 Wheaton Rd.	1 1/2	2003
535	535 Wheaton Rd.	1 1/2	2003
536	536 Wheaton Rd.	1 1/2	2003
537	537 Wheaton Rd.	1 1/2	2003
538	538 Wheaton Rd.	1 1/2	2003
539	539 Wheaton Rd.	1 1/2	2003

TABLE 6B

Existing Secondary Meters Located on Fort Sam Houston, Housing
Water Distribution System, Fort Sam Houston, Texas

Building	Street Address	Size (in)	Year Installed
540	540 Wheaton Rd.	1 1/2	2003
541	541 Wheaton Rd.	1 1/2	2003
542	542 Wheaton Rd.	1 1/2	2003
544	544 Graham Rd.	1 1/2	2003
545	545 Graham Rd.	1 1/2	2003
546	546 Graham Rd.	1 1/2	2003
547	547 Graham Rd.	1 1/2	2003
548	548 Graham Rd.	1 1/2	2003
549	549 Graham Rd.	1 1/2	2003
550	550 Graham Rd.	1 1/2	2003
551	551 Graham Rd.	1 1/2	2003
552	552 Graham Rd.	1 1/2	2003
553	553 Graham Rd.	1 1/2	2003
554	554 Graham Rd.	1 1/2	2003
555	555 Graham Rd.	1 1/2	2003
556	556 Graham Rd.	1 1/2	2003
557	557 Graham Rd.	1 1/2	2003
558	558 Graham Rd.	1 1/2	2003
559	559 Graham Rd.	1 1/2	2003
560	560 Graham Rd.	1 1/2	2003
561	561 Graham Rd.	1 1/2	2003
562	562 Graham Rd.	1 1/2	2003
563	563 Graham Rd.	1 1/2	2003
564	564 Graham Rd.	1 1/2	2003
565	565 Graham Rd.	1 1/2	2003
566	566 Graham Rd.	1 1/2	2003
567	567 Graham Rd.	1 1/2	2003
568	568 Graham Rd.	1 1/2	2003
569	569 Graham Rd.	1 1/2	2003
570	570 Graham Rd.	1 1/2	2003

J3.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 7**. New secondary meters shall be installed IAW Paragraphs C.3.3.1, *Future Meters*, and C.13, *Operational Transition Plan*. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3.3, *Metering*, and J3.6 below.

TABLE 7

New Secondary Meters Located on Fort Sam Houston, Camp Bullis, and CLRA
Water Distribution System, Fort Sam Houston, Texas

Meter Location	Meter Description
None	

J3.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoice (IAW Paragraph G.2, *Submission and Payment of Invoices*. The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. The Contractor shall provide sufficient supporting documentation with each monthly invoice to substantiate all costs included in the invoice for each CLIN as approved by the Contracting officer. The proposed system of accounts shall be made available in electronic format as directed by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

Name: Public Works Business Center, MCCC BPW

Address: Bldg. 4196, 2202 15th Street, Ste. 7, Fort Sam Houston, TX 78234-5007

Phone number: (210) 221-4869

2. Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

Name: Public Works Business Center, MCCC BPW

Address: Bldg. 4196, 2202 15th Street, Ste. 7, Fort Sam Houston, TX 78234-5007

Phone number: (210) 221-4869

3. Secondary Meter Reading Report. The monthly secondary meter reading report shall show the current and previous month's readings for all identified secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to:

Name: Public Works Business Center, MCCS BPW

Address: Bldg. 4196, 2202 15th Street, Ste. 7, Fort Sam Houston, TX 78234-5007

Phone number: (210) 221-4869

4. Well Meter Reading Reports. The daily readings shall be submitted in a format coordinated with the Government. Daily reading shall be submitted by 1300 hrs of the next day. Meter reading shall be submitted to :

Name: Public Works Business Center, MCCS BPW

Address: Bldg. 4196, 2202 15th Street, Ste. 7, Fort Sam Houston, TX 78234-5007

Phone number: (210) 221-4869

J3.7 Water Conservation Projects

IAW Paragraph C.3.4, Energy and Water Efficiency and Conservation, the following projects have been implemented by the Government for conservation purposes.

- There are no water savings projects associated with the utility system being privatized.

J3.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the boundaries of Fort Sam Houston, Camp Bullis, and the CLRA. The Camp Bullis and CLRA areas are serviced by separate distribution systems from the Fort Sam Houston areas.

J3.9 Off-Installation Sites

Camp Bullis and CLRA are considered Off-Installation Sites. Camp Bullis is located north of Loop 1604 on NW Military Highway. CLRA is located on the southeast shore of Canyon Lake, approximately 40 miles northeast of Fort Sam Houston.

J3.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 8** provides a listing of service connections and disconnections required upon transfer.

TABLE 8

Service Connections and Disconnections

Water Distribution System, Fort Sam Houston, Texas

Location	Description
Well # 15 at Camp Bullis	Install water meter on well to measure daily well production.

J3.11 Government Recognized System Deficiencies

Table 9 provides a listing of Government recognized deficiencies. The deficiencies listed may be physical deficiencies, functional deficiencies, or operational in nature. If the utility system is sold, the Government will not accomplish a remedy for the recognized deficiencies listed. The Offeror shall make a determination as to its actual need to accomplish and the timing of any and all such deficiency remedies.

Physical and functional deficiencies may require capital to be invested in the system. If any deficiency remedy requires a capital upgrade project, the capital upgrade project shall be proposed according to the following:

- Capital upgrade projects required to bring the system to standard shall be proposed under Schedule 3 – Initial Capital Upgrade(s)/Connection Charge(s).
- Capital upgrade projects required to replace system components shall be proposed in the first years of Schedule 2 – Renewals and Replacements – 50 Year Schedule, and the cost factored into Schedule 1 – Fixed Monthly Charge, for Renewals and Replacements as part of CLIN AA.
- Transition costs shall be proposed as a one-time cost and shall be treated similar to a capital project and included in Schedule 3 – Initial Capital Upgrade(s)/Connection Charge(s).
- Improvements proposed in the operational component of the work shall be included in Schedule 1 – Fixed Monthly Charge as part of CLIN AA

TABLE 9
System Deficiencies
Water Distribution System, Fort Sam Houston, Texas

System Component	Deficiency Description	Type of Project
Fort Sam Houston		
Distribution System Components	Some portions of the distribution system piping and associated components, as shown on Base utility drawings, were installed in the 1940s, 1950s, and 1960s. These components have exceeded their useful lives and should be replaced.	Renewals and Replacement
SCADA System	The Post-wide SCADA system is ineffective and out-of-date. Field instruments require replacement. Computer hardware/software upgrade is required.	Capital Upgrade
Altitude Valves on Elevated Tanks	Altitude valves to control pump on/off at the wells is required to replace manual tank gauging and well operation.	Capital Upgrade
Install Back-up Generator at Building 2194	Treatment facilities at Building 2194 currently have no back-up generator and will not operate during a power outage.	Capital Upgrade

System Component	Deficiency Description	Type of Project
Well #2 Check Valve	The check valve on Well #2 is leaking and needs replaced.	Renewals and Replacement
Elevated Tank 1565	Remove lead-based paint	Capital Upgrade
Camp Bullis		
Distribution System Components	Some portions of the distribution system piping and associated components, as shown on Base utility drawings, were installed in the 1940s, 1950s, and 1960s. These components have exceeded their useful lives and should be replaced.	Renewals and Replacement
Altitude Valve and Control system for DMSET well	Altitude valves to control pump on/off at the well is not operational and needs repair.	Renewals and Replacement
Altitude Valve on Elevated Tank (Red Tower)	Altitude valve to control pump on/off at wells #3 and #15 required to replace manual tank gauging and well operation.	Capital Upgrade
Water Meter on Wells #3 and #15	Wells metered from one meter near well #3. New meters to individual measure well production are required.	Capital Upgrade
Chlorination Treatment for Well #3	Current chlorination station is located adjacent to the elevated tank. Installation of a new treatment facility at the well is needed. The treatment facilities at the tank need to be re-piped for use as a back-up system, or for supplemental treatment of the tank contents through the booster pump only.	Capital Upgrade
Canyon Lake Recreation Area (CLRA)		
Water Treatment Plant	Components of the water treatment plant are aging and need replacement.	Renewals and Replacement